Sheet 1 of 1				· · · · · · · · · · · · · · · · · · ·			<u> </u>				
FORM PTO 1449 (modified) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE				ATTY DOCKET 2000_1307			MAL NO. 9/667,525				
PATE	NT AND	TRADEMARK OFFI	CE	APPLICANT	. .						
		ES CITED BY APPLICA sheets if necessary)	ANT(S)	Mitsuaki OS	HIMA et al.						
Date Subm	itted to I	PTO: September 24	ŧ, 2001	FILING DATE September 2	21, 2000		2614				
	T		·	U.S. PATENT D	OCUMENTS		т				
*EXAMINER INITIAL		DOCUMENT NUMBERE		NA	ME	CLASS	SUBCLASS	FILING I	DATE IF PRIATE		
	AA	0,	11 33					APPRO			
2.5	АВ	\ SEP 2 "	WK OFF				Molog	2 12	į.		
	AC	ATENT & TRAC	EMA				26	10,	0		
	AD							260			
	AE										
	AF										
	AG										
	АН										
	AI										
				FOREIGN PATENT	DOCUMENTS			 			
		DOCUMENT NUMBER	DATE	cou	NTRY	CLASS	SUBCLASS	TRANS YES	LATION NO		
22	AJ	04-196822	7-16-92	Ja	pan			abstract			
200	AK	0 506 400	9-30-92	Eur	оре			х			
	AL										
	АМ										
	AN			<u> </u>		<u> </u>					
	т	ОТН	IER DOCUMENT	S) (Including Autho	or, Title, Date, Per	tinent Pages,	Etc.)				
	AO										
	АР				ini-						
	AQ						-	- T. L. L	A 20 40		
EXAMINER		1 Amandal)		DATE CONSIDI	ERED	8,16.02				

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Sheet 1 of 1	,	()	-0						
◆FORM PTO 1449 (n		MENT OF COMMER	CE.	ATTY DOCKET 2000_1307		SERIAL 09/66	. no. 67,525		
PATEN	IT AND	TRADEMARK OFFI ES CITED BY APPLICA	CE	APPLICANT Mitsuaki OSI	HIMAVat al.	1 2001			- 1121
		sheets if necessary)	ANT (3)	FILING DATE GROUP					
Date Su	bmitted	to PTO: April 11, 2	2001	Mitsuaki OSHIMART al. FILING DATE September 21, 2000 FMARY OF 2614					
	<u> </u>			U.S. PATENT DOCUMENTS					
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NA	ME	CLASS	SUBCLASS	FILING I	
212	AA	5,565,926	10-15-96	Bryan	et al.				
,	AB								
·	AC							11 - C - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	/ [r p
	AD							ECEIV	
	AE							PR 1 2 2	1
	AF				_		lech	iology Cent	ter 2600
*	AG							-	
• (4)	АН				•	·¥·			
•	Al						,		
				FOREIGN PATENT	DOCUMENTS				
		DOCUMENT NUMBER	DATE	COU	ITRY	CLASS	SUBCLASS	TRANSI YES	
AD.	AJ	2-166979	6-27-90	Jap	oan			abstract	
	AK								
	AL								
	AM								
	- AN				×				
·		отн	ER DOCUMENT(S) (Including Autho	r, Title, Date, Pert	inent Pages, Etc.)			
	АО					*			
·			·						
	АР								
	ΔQ								
·*·					·				
EXAMINER		gmandad	$\underline{\underline{C}}$		DATE CONSIDER	RED	08.16.02	<i>J</i>	

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Sheet 1 of 1	٤ ١	-4										
FORM PTO 1449 (/		MENT OF COMMER	CE	ATTY DOCKET NO. 2000_1307	SERIAL 09/66	. NO. 67,525						
PATE	NT AND	TRADEMARK OFFI	CE	APPLICANT Mitsuaki OSHIMA et al.	RECEIVE		TPE	\				
		ES CITED BY APPLICA sheets if necessary)	AN 1(5)	Mitsuaki OSHIMA et al. RECEIVED GROUP GROU								
Date Sub	mitted t	o PTO: January 5,	2001	September 21, 2000 JAN 0 9 200 2614								
	,		,	U.S. PATENT DOCUMENTS	Incloay Center	1000 ×	PHADENARY OF					
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	SUBCLASS	FILING D						
JR.	AA	5,243,629	9-7-93	Wei		_						
	АВ											
	AC											
	AD							,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,				
	AE											
	AF											
	AG											
	АН											
	AI											
				FOREIGN PATENT DOCUMENTS								
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSL YES	ATION NO				
202	AJ	64-74836	3-20-89	Japan	1-		abstract					
	AK	53-108215	9-20-78	Japan			abstract					
	AL	63-28145	2-5-88	Japan			abstract					
	АМ	64-68144	3-14-89	Japan			abstract					
31R	AN	5-218978	8-27-93	Japan		<u> </u>		Х				
		отн	ER DOCUMENT(S	(Including Author, Title, Date, F	Pertinent Pages, Etc.)							
	AO			. v .								
	AP											
	AQ											
CYAMINED		Amanda	C /	DATE CONSI	IDERED (08.16 02V						

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Sheet	6 of 6												
FORM	PTO 1449 (MENT OF COMMER	ace.	ATTY DOCKET NO. 2000_1307		SERIAL NEW	NO.					
	PATE	NT AND	TRADEMARK OFF	ICE	APPLICANT Mitsuaki OSHIMA et al.								
	(Us	se severa	I sheets if necessary) PTO: September 2		FILING DATE GROUP September 21, 2000					oup 2634			
					U.S. PATENT DOCUMENTS			L					
	(AMINER NITIAL		DOCUMENT NUMBER	DATE	NAME	CLA	CLASS		BCLASS	FILING DATE IF APPROPRIATE			
A	AA 4,636,876 1-13-87		Schwartz	1			_						
		AB	4,855,692	8-8-89	Kennard et al.								
		AC	4,873,701	10-10-89	Tretter								
		AD	4,958,360	9-18-90	Sari		-						
	<u> </u>	AE	5,115,453	5-19-92	Calderbank et al.								
.×	21	AF	5,168,509	12-1-92	Nakamura et al.	1							
		AG											
		АН											
		AI								,			
		,			FOREIGN PATENT DOCUMENTS		,						
			DOCUMENT NUMBER	DATE	COUNTRY	CLA	ss	SUE	BCLASS	TRANSL YES	ATION NO		
D	<u></u>	AJ	0122805	10-24-84	EP		,	_	<i></i>	х	_		
2	\overline{x}	AK	63-180280	7-25-88	JP		-		-	abstract			
		AL											
		АМ				ļ							
		AN											
			отн	ER DOCUMENT(S) (Including Author, Title, Date, Pe	rtinent Page	s, Etc.)			.			
A	Z.	AO			of Multichannel Orthogonal ommunications, June 14-1								
		АР	Thomas M. Cov	ver, Broadcast	Channels, IEEE Transaction	s on Infor	mation	Theo	ry, Janu	ary 1972, Pa	ages 2-14		
X	1 C	AQ			Speech Signals", Sundberg Pages 872-881.	, IEEE Tra	nsactio	ins on	Commu	nications, V	olume		
EVANA	NED		Amarda	ر فیل	DATE CONSID	EBED	60	10	.02,				

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Shee	et 3 of 6					_					
FORM PTO 1449 (modified) U.S. DEPARTMENT OF COMMERCE					ATTY DOCKET NO. 2000_1307		SERIAL NEW	NO.			
	PATER	NT AND	MENT OF COMMER TRADEMARK OFFI SES CITED BY APPLICA	ICE .	APPLICANT Mitsuaki OSHIMA et al.						
	(Us	se several	of the standard in the standar		FILING DATE September 21, 2000						
-		1000	110100000000000000000000000000000000000	1, 2007	U.S. PATENT DOCUMENTS						
	EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME CLASS			SUB	BCLASS	FILING (
×	Q.E	АА	5,105,442	4-14-92	Wei						
		АВ	4,048,572	9-13-77	Dogliotti et al.						
		AC	5,282,019	1-25-94	Basile et al.						
		AD	5,311,547	5-10-94	Wei						
		AE	5,267,021	11-30-93	Ramchandran et al.						
		AF	5,038,219	8-6-91	Yamashita et al.				`		
		AG	5,087,975	2-11-92	Citta et al.	\prod					
		ĄН	5,086,340	2-4-92	Citta et al.]_		7			y
		AI									
				1	FOREIGN PATENT DOCUMENTS						
			DOCUMENT NUMBER	DATE	COUNTRY	CLA	ıss	SUB	CLASS	TRANSI YES	
		AJ	53-137657	12-1-78	JP	11		1		х	
		AK	0282298	9-14-88	Europe					х	
		AL	0392538	10-17-90	Europe					х	
		АМ	0490552	6-17-92	Europe					x	
		AN	0506400A2	9-30-92	Europe	1		ل			
			отн	ER DOCUMENT(S) (Including Author, Title, Date, Pe	ertinent Page	es, Etc.)				
		AO	Khaled Fazel et 1081-1085	al., Combined	multilevel coding and multi	iresolutior	n modul	ation,	February	8, 1993, F	Pages
		АР			of an RCPC-Coded OFDM-tons Conference "Globecom						
X	20	AQ	K. M. Uz et al., 1992, Pages 28		ltiresolution source coding a	and modu	lation f	or digit	tal broadd	cast of HD1	ΓV*,
FXAM			Amanda	Le /	DATE CONSIDE			818	.02V		

Sheet 1 of 6						_					
FORM PTO 1449		MENT OF COMMER	ROF	ATTY DOCKET 2000_1307			SERIAL NEW	NO.			
PATI	ENT AND	TRADEMARK OFF	ICE	APPLICANT Mitsuaki OS	HIMA et al.						
(4	Jse severa	I sheets if necessary) PTO: September 2		FILING DATE September 2	21, 2000			GROU	JP 26	34	
				U.S. PATENT D	OCUMENTS_						
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NA	ME	CLA	ASS	SUB	CLASS		DATE IF
D	AA	5,311,550	5-10-94	Fouch	e et al.	1	-	/	<u> </u>	·	
	АВ	4,630,287	12-16-86	Arms	strong						
	AC	4,271,527	6-2-81	Arms	strong						
	AD	5,050,188	9-17-91	D	irr						
	AE	5,398,073	3-14-95	· w	/ei						
	AF	5,452,015	9-19-95	Huly	alkar						
	AG	5,565,932	10-15-96	Gitta	et al.						
	АН	5,481,412	1-2-96	Banna	i et al.						
	AI	3,909,721	9-30-75	Bussga	ng et al.	7		\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \			
				FOREIGN PATENT	DOCUMENTS						
		DOCUMENT NUMBER	DATE	cou	NTRY	CLA	\SS	SUB	CLASS	TRANS YES	SLATION S NO
	AJ	0365431	4-25-90	E	P	-		-	_		х
	AK	0485105	5-13-92	E	P					х	
	AL	92/14343	8-20-92	W	/O .					X	
	АМ	89/08366	9-8-89	W	/ 0					×	
	AN	0031193	7-1-81	E	Р	1			_	X	
		отн	IER DOCUMENT(S) (Including Autho	r, Title, Date, Pe	rtinent Page	es, Etc.)				
	AO	Shinji Matsumoto et al., "200 Mb/s 16 QAM Digital Radio-Relay System Operating in 4 and 5 GHz Bands", Japan Telecommunications Review, January 1982, vol. 24, no. 1, pages 65-73.									
	AP	M. Pecot et al., Image Commun					Compa	atible \$	System",	Signal Pro	cessing
20	AQ Mitsuaki Oshima, "Constellation-Code Division Multiplex for Digital HDTV", IEEE, 1992, pages 1086-1092.										
FYAMINER		manda fe	1		DATE CONSIDI	FRED		216	02		

Sheet	2 of 6										
	PTO 1449 (n		ACUT OF SOLARS		ATTY DOCKET NO. 2000_1307		SERIAL NEW	NO.			
	PATEN	IT AND	MENT OF COMMER TRADEMARK OFFI ES CITED BY APPLICA	CE	APPLICANT Mitsuaki OSHIMA et al.						
	(Us	e several	sheets if necessary) PTO: September 21		FILING DATE GROUP 2634 September 21, 2000						
	Date Submi	itted to	TO. Coptombol 21	, 2000	U.S. PATENT DOCUMENTS						
	(AMINER NITIAL		DOCUMENT NUMBER	DATE	NAME	CLA	ss	SUBC	CLASS	FILING D	
R	2.	AA	4,227,152	10-7-80	Godard et al.	T					
		АВ	4,525,846	6-25-85	Bremer et al.						
		AC	4,751,478	6-14-88	Yoshida						
	·	AD	4,891,806	1-2-90	Farias et al.						
		AE	4,903,125	2-20-90	Parker						
		AF	4,937,844	6-26-90	Као						
		AG	5,164,963	11-17-92	Lawrence et al.					—	
		АН	5,555,275	9-1996	Oshima			1	_		
		Al									
					FOREIGN PATENT DOCUMENTS	Ţ					
			DOCUMENT NUMBER	DATE	COUNTRY	CLA	\ss	SUBC	CLASS	TRANSI YES	ATION NO
		AJ	0311188	4-12-89	EP	1				×	
		AK	0329158	8-23-89	EP					x	
		AL	64-5135	1-10-89	JP					х	
		AM	63-28145	2-5-88	JP					×	
		AN	62-133842	6-17-87	JP					x	
			отн	ER DOCUMENT(S	(Including Author, Title, Date, Pe	rtinent Pag	es, Etc.)				
	AO Tricia Hill et al., "A Performance Study of NLA 64-State QAM", IEEE Transactions on Communications, vol. COM-31, June 1983, no. 6, pages 821-826.										
	AP Hideki Ishio et al., "A Proposal of a Carrier Digital Transmission System Using Multi-Level APSK", pages 1-20.										
	AQ Shanmugam, "Digital and Analog Communication Systems" 1979, p. 272.										
FYAM	INER	1	Amn	odade	DATE CONSID	ERED	90	5.16.0	2		

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Sheet 4 of 6					_						
FORM PTO 1449		MENT OF COMMER	CE.	ATTY DOCKET NO. 2000_1307		SERIAL NEW	NO.				
PATE	NT AND	TRADEMARK OFFI	CE	APPLICANT Mitsuaki OSHIMA et al.							
(0	se severa	I sheets if necessary) PTO: September 2		FILING DATE September 21, 2000 GROUP 2634						·	
			.,	U.S. PATENT DOCUMENTS							
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	NAME	CLA	ss	SUBCLASS		FILING DATE IF APPROPRIATE		
2B.	АА	5,142,353	8-25-92	Kageyama et al.	1						
	AB	5,197,061	3-23-93	Halbert-Lassalle et al.							
	AC	5,291,289	3-1-94	Hulyalkar et al.							
AL C	AD	5,166,924	11-24-92	Moose	1		ل		<u>.</u>		
	AE						! !				
	AF										
	AG		,								
	АН										
	Al								<u></u>		
				FOREIGN PATENT DOCUMENTS			r				
		DOCUMENT NUMBER	DATE	COUNTRY	CLA	ss	sui	BCLASS	TRANS YES	LATION NO	
QR	AJ	0448492A1	9-25-91	Europe			_	<u> </u>	~		
	AK	0485108A2	5-13-92	Europe					~		
	AL	0525641A2	2-3-93	Europe					1		
V	АМ	0540231A2	5-5-93	Europe					~		
2PC	AN	0531046A2	3-10-93	Europe			_		1		
		отн	ER DOCUMENT(S	(Including Author, Title, Date, Per	rtinent Page	s, Etc.)					
28	AO	K. M. Uz et al., 69.	Multiresolutio	n Source and Channel Codin	ng for Dig	ital B ro	adcas	t of HDT	V, 1992, P	ages 61-	
	АР			evel Block Coded Modulatio , May-June 1993, Pages 32		Jnequal	Error	Protection	on for the R	ayleigh	
20	AQ	William F. Schre 549.	eiber, Spread-S	Spectrum Television Broadca	asting, Si	MPTE J	ourna	l, August	1992, Pag	es 538-	
EVALAINED		amanda fe	1	DATE CONSIDE	CRED	01	2.16	3.02			

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

Sheet 5 of 6	177.61 TO	1.3								
FORM PTO 1449 (r		MENT OF COMMER	ace.	ATTY DOCKET NO. 2000_1307	SER. NEV	IAL NO.				
PATE	NT AND	TRADEMARK OFF	ICE	APPLICANT Mitsuaki OSHIMA et al.						
		ES CITED BY APPLIC I sheets if necessary)								
Date Subm	itted to	PTO: September 2	1, 2000	September 21, 2000 GROUP 2634						
	,	T		U.S. PATENT DOCUMENTS						
*EXAMINER INITIAL		DOCUMENT NUMBER	DATE	TE NAME CLASS SUBCLASS						
	АА									
	AB									
	AC									
	AD									
	AE									
,	AF									
	AG									
	АН									
	Al									
				FOREIGN PATENT DOCUMENTS	<u></u>					
		DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANS YES	LATION NO		
SD	AJ	85/04541	10-10-85	wo		_	/			
	AK									
	AL									
	АМ									
	AN									
		ОТІ	HER DOCUMENT(S) (Including Author, Title, Date, Per	rtinent Pages, Etc	p. J				
20	AO			olution Coding Techniques f ng, Volume 3, May 1992, Pa			v, Multidim	ensional		
V	AP	Ezio Biglieri et a	Ezio Biglieri et al., Introduction to Trellis-Coded Modulation with Applications, April 6, 1992, Pages 173-207.							
BR	AQ	English Langua	ge Abstract of	European Patent No. 93 30	7575					
EVALUED		8) man	dale	DATE CONSIDE		08 16.021				

^{*}EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.